Contents:
- Maui Sparrow Confirmed Negative for West Nile Virus
- Disease Outbreak Summary: 2003
- The Strategic National Stockpile (SNS)
- Hawai`i's Perinatal Hepatitis B Prevention Guidelines

Communicable Disease Report

Hawai'i Department of Health
Communicable Disease Division

http://www.state.hi.us/doh/resource/comm_dis/cdr.html

September/October 2004

Maui Sparrow Confirmed Negative for West Nile Virus

On Friday, September 24, 2004, the Department of Health (DOH) reported that a live sparrow trapped at the Kahului airport on Maui tested positive for West Nile virus (WNV). It was part of a group of 20 birds trapped at the airport by the United States Geological Survey (USGS) and tested for the disease. It is the first serologically positive animal or person with no travel history to be diagnosed in Hawai`i. Since then, another 28 birds have been trapped from the same area. None in the second group tested positive.

On September 30, the Centers for Disease Control & Prevention (CDC) confirmed that the serum was negative for WNV by Plaque Reduction Neutralization Test (PRNT) – the confirmatory test to identify the infecting virus. If the serum had been confirmed to be WNV positive, by inference it would have indicated that the virus had been present on Maui for weeks to months with local transmission occurring over a wide area.

Hawai`i and Alaska are the only states that have not reported West Nile Disease (WND) in animals or humans.

Diagnostic Testing

The bird was tested with an IgM Capture ELISA (MAC ELISA) assay adapted for chicken and crows at the DOH laboratory, a test that detects viral specific immunoglobulin M (IgM) produced during the first few days after onset of symptoms. However, this test is a screening test that generically detects flaviviruses, which includes yellow fever, Japanese B encephalitis (JE), Murray Valley fever, St. Louis encephalitis (SLE) and dengue fever viruses. In addition, the sample was also tested to detect seroreactivity to SLE. The second test was also a probable positive for IgM antibody to SLE.

An aliquot of sera was sent to the Orange County (CA) Vector Laboratory and tested using a blocking ELISA assay which is more specific to West Nile antibodies. This blocking ELISA test targets an immunodominant West Nile epitope on the West Nile Virus NS1 protein. The serum tested negative for WNV antibodies but positive for JE antibodies.

On Tuesday, October 5, 2004 the CDC reported negative results for WN, SLE and JE by the PRNT.

St. Louis Encephalitis

SLE is a flavivirus that produces a disease similar to WND in humans. It is endemic in the United States, and its range extends south as far as Brazil. Its cycle is similar to that of WNV, being transmitted between birds and mosquitoes *(Culex spp.),* with humans being a dead end host.

However, a major difference from WNV is that SLE does not produce disease in animals. Antibodies may be found in birds, but not in horses.

SLE has never been diagnosed in Hawai`i in humans, although people are rarely tested for the disease.

Japanese B Encephalitis

Japanese B encelphalitis (JE) is a mosquito *(Culex spp.)* transmitted flavivirus that is widely distributed throughout Asia, and has been associated with rice growing areas. Pigs are considered the primary amplifying hosts. Many other mammalian species may develop high anti-JE antibody titers, but are not considered essential to the viral amplification cycle. Ardeid birds, such as egrets, and some species of cormorants and herons exhibit high seroconversion rates and may contribute to ongoing virus amplification.

JE has never been diagnosed in Hawai`i in humans.

An Old Study

In 1964, Dr. Gordon Wallace et. al published a paper in the Hawai`i Medical Journal[1] in which they reported finding antibody against JE, SLE and Western equine encephalitis (WEE) viruses in significant amounts in sera of four of 754 birds examined in Hawai`i. One of

continued on page 2

West Nile Virus

continued from page 1

the birds had been imported from India. However, the above diseases have never been diagnosed in humans or horses (WEE).

Surveillance: Past and Present

Live Birds

Previous to the positive sparrow detected last week, no live birds collected at the Kahului, Honolulu and Dillingham airports have tested positive. Weekly testing of live birds commenced two years ago by the USGS. Trapping and testing continued twice-weekly until the negative results were received.

Dead Birds

Statewide dead bird testing has been ongoing since the spring of 2004. No birds tested have been positive for WNV. There has been no recent increase of the number of dead birds collected at Kahului airport. Residents are being asked to continue to report sightings of dead birds to enable testing of the birds. Testing of dead birds is the best indicator of the presence and geographic range of the disease.

Equine Surveillance.

Surveillance for WND in horses has been conducted by the Department of Agriculture (DOA) since 2003. Diagnostic samples are sent to the National Veterinary Services Laboratory in Ames, Iowa. None of the horses tested to date have been positive for WNV. Active surveillance by the DOA is continuing through regular contact with equine practitioners. Encephalitic horses that die or are euthanized will have serum samples split, with an aliquot being sent to the DOH laboratory for WNV testing. Brain stem samples will be obtained with owners consent from such horses for PCR testing.

Human Surveillance.

Human surveillance has been conducted in Hawai`i since 2003. An imported case exposed in Minnesota was diagnosed here in 2002. All diagnostic testing is done at the DOH laboratory. There have been no positive test results.

Upon being notified of the positive sparrow, the DOH Disease Outbreak and Control division issued a medical alert to primary care providers in the state, which included a report form for cases of encephalitis. Physicians are being asked to report any cases of encephalitis or meningo-encephalitis in patients, and to provide serum and cerebrospinal fluid samples for West Nile testing.

The DOH took emergency steps to quickly implement an amendment to the notifiable disease administrative rules to require reporting of clinical cases of encephalitis and meningo-encephalitis.

Mosquito Surveillance

Mosquito surveillance has been conducted statewide since the spring of 2004. Pools of trapped mosquitoes have been tested during this period. All results have been negative.

Since the discovery of the positive bird, surveillance has been increased on Maui, with adulticide and larvicide spraying in a four-mile radius around the airport. Trapping and spraying has been ongoing at the Honolulu airport and harbor and the Barbers Point harbor. Activities include trapping and testing mosquitoes and spraying larvicides in storm drains. The DOH Vector Control branch is also looking into the possibility of aerial spraying, and development of a plan of action if the disease is indeed confirmed

Additional Funding

The DOH, through the governor's office, is also requesting additional federal funding to assist in the effort to control and hopefully eradicate this disease before it becomes established.

For More Information and Individual Prevention Activities

A review of the disease and the prevention program in Hawai`i was published in the July-August 2004 issue of the Communicable Disease Report, online at the DOH website (www.hawaii.gov/health).

Individuals are encouraged to participate in this prevention effort by:

1) reporting dead birds by calling 211 for appropriate instructions;
2) reducing mosquito populations at home and the workplace by eliminating standing water where mosquitoes can breed;
3) repairing and maintaining window and door screens to keep mosquitoes out of homes;
4) wearing long pants and long-sleeved shirts when outdoors, and
5) using repellent that contains DEET® when outdoors.

For more information, please call the Bioterrorism Preparedness Branch in Honolulu at (808) 586-4586, on Hawai`i at (808) 933-0912, on Maui at (808) 984-8213 and on Kaua`i at (808) 241-3563.

REFERENCE.

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2. Beran, George W., and Steele, James H., Editors. Handbook of Zoonoses, 2nd Ed., Section B: Viral. 1994. Boca Raton, FL, CRC Press, 582pp.

Submitted by David M. Sasaki, D.V.M., M.P.H., Veterinary Medical Officer, Disease Outbreak and Control Division.

Communicable Disease Report

Communicable Disease Division	586-4580
Tuberculosis Disease Control Branch	832-5731
Hansen's Disease Control Branch	733-9831
STD/AIDS Prevention Branch	733-9010
STD Reporting	733-9289
AIDS Reporting	733-9010
Disease Outbreak and Control Division	586-4586
Disease Investigation Branch	586-4586
Immunization Branch	586-8300
Bioterrorism Preparedness and Response Branch	587-6845
Information & Disease Reporting	586-4586
After-hours Emergency Reporting	247-2191 (State Operator)
After-hours Neighbor Island Emergency Reporting	800-479-8092

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Communicable Disease Investigations and Outbreaks Hawai`i 2003

Hawai`i Administrative Rules currently require that health providers, health facilities, and laboratories report 58 diseases or conditions, including events of bioterrorism and clusters of illness, to the Department of Health (DOH). Fifty-four are designated by the Council of State and Territorial Epidemiologists as nationally notifiable diseases. Confirmed and probable cases are reported to the Centers for Disease Control and Prevention (CDC) on a weekly basis via the National Electronic Telecommunications Surveillance System. Tuberculosis, sexually transmitted diseases, AIDS/HIV, Hansen's disease, and lead surveillance data are reportable to individual programs. All other reportable illnesses are investigated by the Disease Investigation Branch (DIB).

In 2003, Hawai`i's ten most frequently reported infectious diseases (in descending order) were: chlamydia, gonorrhea, influenza and influenza-like illness (ILI), campylobacteriosis, salmonellosis, pneumococcal disease, streptococcal infections, AIDS/HIV, tuberculosis, and giardiasis. Refer to Table 1 for the disease incidence for Hawai`i's notifiable diseases 1999 - 2003.

The Disease Investigation Branch in concert with the District Health Offices for the counties of Kaua`i, Maui, and Hawai`i conducted 1,511 investigations affecting 840 ill individuals. This is a marked increase from the previous year when there were 657 investigations affecting 745 ill individuals. The increase is likely due to three factors: 1) Increased staffing through bioterrorism preparedness funding has increased the number of investigations that can be done. 2) As of January 2003, procedures for logging illnesses changed resulting in more documented investigations. 3) Continuing improvements to reporting processes and laboratory testing capacity are likely resulting in more illnesses being reported than in previous years. Summaries of 2003 investigations and outbreaks by reporting category are listed below.

Fish Poisoning

Twenty-six incidents of Ciguatera poisoning were reported involving 64 cases of 71 exposed. Recreationally caught fish (where the exposed person caught fish themselves) accounted for 15 (57%) of these incidents; nine (35%) were associated with fish purchased from a market or vendor; and two (8%) occurred from fish obtained from a friend/relative. Refer to Table 2 for a list of implicated fish and the reported catch sites in these incidents.

Scombroid poisoning accounted for 19 outbreaks (two or more ill) and 19 additional single reports. Scombroid outbreaks were associated with restaurants (19), hospital cafeterias (3), a catering workplace (1) and store-bought fish eaten at home (1). Of the 19 single scombroid incidents, 14 (74%) were related to restaurants, two (11%) to employee cafeterias, one to fish purchased from a vendor, one to fish from a private fisherman, and one to canned tuna from a store. Refer to Table 3 for a list of implicated fish types and locations of preparation.

There was one incident of hallucinogenic fish poisoning reported in 2003 from Kaua`i. After four persons ate mullet caught by a friend, three became ill with one person experiencing nightmares/hallucinations.

Food-borne Outbreaks

The DIB received an additional 228 food-borne illness complaints not related to fish poisoning. Of these, seven outbreaks were detected and subsequently investigated. The etiology was confirmed in four of the outbreaks. A viral agent was thought to be the cause of another outbreak and the agent could not be determined in the two others. Refer to Table 4 for a detailed listing of all food-borne outbreaks.

The following two outbreak summaries are typical of the investigations that the DIB conducts and demonstrate the importance of timely reporting, the benefits of molecular sub-typing methods such as pulse field gel electrophoresis (PFGE), and the challenges posed in investigating such outbreaks.

Staphylococcal Intoxication Associated with a Church Retreat Camp, Moloka`i

On June 20, 2004 the DIB received reports of participants from a youth church retreat camp presenting to the local emergency room. Symptoms included vomiting, nausea, abdominal cramps, diarrhea, and headache occurring within three to six hours after eating at the retreat. The names of 23 people who registered at the emergency room were received. Six of the 23 (26%) were reached and consented to interviews. The organizers of the retreat declined to provide additional case contact information. Food for the retreat had been brought to Moloka`i from O`ahu and prepared at the camp. Clinical specimens collected in the emergency room and leftover spaghetti sauce collected from the camp were sent to the State Laboratories Division. The Medical Microbiology Branch analyzed the clinical specimens and isolated *Staphylococcus aureus*. The Environmental Microbiology Section analyzed the spaghetti sauce and also isolated *Staphylococcus aureus*. The Bioterrorism Laboratory performed toxin immunoassay for staphylococcal enterotoxin B (the suspected cause of illness) and pulsed field gel electrophoresis (PFGE) on the *Staphylococcus aureus* isolates. The enterotoxin was found in both the clinical and food isolates and PFGE patterns in the clinical isolates matched those in the

continued on page 4

Communicable Disease

continued from page 3

food isolates. This confirmed an outbreak of Staphylococcal intoxication had occurred, with the spaghetti sauce implicated by laboratory evidence. The full extent of the outbreak, however, could not be determined due to lack of participation in the investigation from the parties involved.

Probable Outbreak of a Viral Illness Associated with a Wedding, O`ahu

On September 2, the DIB was notified of gastrointestinal illness among attendees of a wedding banquet on a private estate in Leeward O`ahu on August 30. The host provided a guest list. A sushi caterer and a Honolulu restaurant catering the event provided menus. Eighty-four attendees reported symptoms including vomiting, nausea, abdominal cramps, diarrhea, and headache occurring 6.5 to 77.5 hours after eating. The large range indicated possible secondary transmission of illness. No clinical or food samples were available from the event but potable water from the spigot near the restrooms on the estate was collected by the DOH. Analysis by the Environmental Microbiology Section found the water to be free of fecal coliform contamination. Statistical analysis of the 137 people interviewed implicated sushi as the source of illness. The characteristics of illness reported suggested a viral etiology.

Vaccine Preventable Diseases

The DIB investigates suspected cases of vaccine preventable diseases in the state of Hawai`i. A total of 48 investigations were initiated involving reportable vaccine preventable diseases. This represents an 8% decrease compared to 2002 investigations, despite substantial measles activity in 2003 (see below). Pertussis cases declined 63% from 2002. A summary of investigations for each disease appears in Table 5.

Measles Outbreaks

There were four measles outbreaks involving 15 cases during 2003. The source for the index case for the first outbreak is unknown but the two resulting secondary cases were unvaccinated household contacts. The second outbreak occurred among two sisters who had been improperly vaccinated. The family had moved here from out-of-state and both girls received their first vaccination before their first birthday.

The source of the second outbreak was unknown but the onset is notable for being concurrent with the onset of a measles outbreak in the Republic of Marshall Islands, where more than a 1,000 cases of measles, including three deaths, occurred. The bulk of the cases in the Marshall Islands outbreak were seen between July and September with the first onset on July 13. This is also when the bulk of the Hawai`i measles cases were seen in 2003. Three imported cases from the Marshall Islands outbreak resulted in seven secondary cases who were responsible for initiating the third and fourth outbreaks. The third outbreak occurred within two apartments of young, pregnant Marshallese women who came to O`ahu to give up their babies for adoption. The index case was imported from the Marshall Islands and was the source of transmission to three other household contacts. The fourth outbreak started with an imported case from the Marshall Islands who transmitted it to three other cases with familial and other community ties. This was followed by another imported case that appeared within the same community. All of the cases in the third and fourth outbreaks were Marshallese.

As a result of the Marshall Islands outbreak, the DOH worked with the O`ahu Marshallese community and developed a church-based vaccination program. Between November 2003 and March 2004 there were two immunization sessions in each of six different churches. A total of 208 measles-mumps-rubella (MMR) vaccinations were given. Most of the recipients were beyond school age.

Influenza

Hawai`i public schools are required to contact the DOH when the rate of absenteeism exceeds 10% for the entire school and 20% for a single class or grade. Schools experiencing high absentee rates of students demonstrating ILI symptoms (fever coupled with one or more respiratory symptoms) are sent kits to collect nasopharyngeal, pharynx, or nasal wash specimens for submission to the State Laboratories Division for culture isolation and possible strain-typing. An outbreak is confirmed when at least one student has an influenza positive culture or rapid antigen test. Determining the causative agent of the outbreak is helpful in control and prevention of further cases. Three outbreaks were identified in 2003 and investigated early in the year. The first was in a nursing home and the other two were in elementary schools. Refer to Figure 1 for a classification of strain types identified during the year.

Outbreak of Influenza A in an O`ahu Nursing Home

On January 20, 2003, the DIB was notified by the infection control nurse for an O`ahu nursing home that eight residents were exhibiting influenza-like symptoms, including fever and respiratory symptoms. Residents were given prophylactic medicines and specimens were taken from those who were still symptomatic. All those who were ill had received flu shots. One case had a rapid test positive for influenza A, but the virus culture was negative. One of three others with cultures was positive for influenza A(H3) and thought to be the A/Panama strain, which was the predominant H3 strain circulating at the time. Most specimens were taken 72 hours after onset and may not have contained enough virus to grow in culture, but were likely also influenza A. The infection control for the nursing home speculated that employees may have been the source as their flu vaccination rate was at 75% while the resident rate was at 95%.

Probable Outbreak of Influenza in an O`ahu Elementary School

On February 24, 2003, the DIB was notified by the school health nurse that ten (38%) of the students from Grade 4 were absent with influenza-like symptoms in-

continued on page 5

Communicable Disease

continued from page 4

cluding fever, cough and headache. Four had onset of illness on February 22 and six had onset of illness on February 23. There was no laboratory testing as the ill students were not in school. By February 28, no further cases were reported.

Influenza A Outbreak in a Moloka`i Elementary School

On February 27, the Maui District Health Office (MDHO) received notification from a school health aide that 29 (42%) of the students from the school had an influenza-like illness, with onset dates ranging from February 2 to February 27. The MDHO received the names and contact information for the cases and arranged for a public health nurse (PHN) to do nasopharyngeal swabs on the more recent cases. While most of the students were treated by a local physician and had no testing done, two students were cultured by the PHN and found to be positive for influenza A.

Zoonoses

Murine Typhus

There were 38 cases of murine typhus fever reported in 2003, nine fewer than in 2002. Maui County (islands of Maui and Moloka`i) reported 15 cases (14 on Maui and one on Moloka`i), while O`ahu reported 12 and Kaua`i 11. No cases were reported from Hawai`i.

Leptospirosis

There were 36 cases reported statewide with Hawai`i reporting 16 followed by Kaua`i 10 and O`ahu 9. One case was reported in a tourist after returning to the mainland.

Dengue Fever

The outbreak that started in 2001 and spilled over into 2002 did not continue in 2003.Three imported cases were reported: two from the Philippines and one from the Marshall Islands.

Hepatitis Summary

The DIB investigates reports of acute and chronic hepatitis. Prophylaxis of immune globulin and vaccine are offered to contacts of acute cases of hepatitis A. Contacts of acute cases and chronic carriers of hepatitis B are evaluated for their immune status and susceptible contacts are offered the hepatitis B vaccination series.

Hepatitis A

A total of 13 cases were reported in 2003, representing a 48% decline in the number of cases reported from 2002. No clusters or outbreaks were identified. By island, eight were from O`ahu, two from the Big Island, two from Maui, and one from Kaua`i.

Hepatitis B

A total of 26 cases of acute hepatitis B were reported to DOH, a 54% increase from 2002. Twenty cases were reported on O`ahu, four on Maui and two on Kaua`i.

The Hepatitis B Perinatal Program identified 231 infants born to carrier mothers in calendar year 2003. Two hundred twenty-four received HBIG (97%) and 171 (62.8%) as of June* completed the three dose vaccine series (*children born after October 2002, would not yet have been due for their third dose). Eighty-eight percent of the infants that had post-vaccine serology at one year of age or older showed immunity to hepatitis B.

The hepatitis B high-risk program registered 2200 individuals as opposed to 3963 individuals in 2003, but this decrease was due to the elimination of registration of prison inmates, STD clients, IV drug users and HIV/AIDS clients. Vaccines are still provided but these groups are no longer tracked by the program. Over 1,500 individuals were seen at the Lanakila Immunization and Vaccine Evaluation (LIVE) clinic and tested for serological markers for exposure to hepatitis B. More than half were positive, with 46% being chronic carriers and six percent infectious at the time of testing. All of those who were identified as susceptible (47%) started the vaccine series.

Hepatitis C

Hepatitis C has been a reportable disease since October 1997. Ascertaining the exact number of cases has been problematic due to retesting and duplicate reporting by physicians and laboratories. Provisional data for the five-year period from 1998 to 2003 shows the mean number of new cases per year at 1,665 with 64% of the cases in males and 36% of the cases in females. See Table 6 for a breakdown of cases by year and age group.

Other Significant Disease Activity

Severe Acute Respiratory Syndrome (SARS)

In late February of 2003, reports of a new emerging disease named Severe Acute Respiratory Syndrome (SARS) was reported from China. In March, the first suspect case in the state was identified on Kaua`i. Between March and July a total of six suspected cases were identified. Five of the six cases were eventually ruled out through laboratory testing. The sixth case, a merchant marine, remains classified as a “suspect” case because he could not be reached to do necessary laboratory testing to be ruled out. No confirmed or probable cases of SARS were reported in the state.

Bacterial Meningitis

In July of 2003, two cases of meningococcal meningitis, less than three weeks apart, were reported on the island of Hawai`i in young children. Although all household contacts of the first case were given prophylaxis, it was discovered that there was possible contact between the first case and the second case. Both cases belong to the same ethnic group and are in frequent social contact. Both cases also attended the same church. Due to shared housing and the mobility of this community, a decision was made to administer prophylaxis to as much of the community as possible. The DOH provided prophylaxis at a Sunday church service. No further cases of meningococcal disease were seen and a possible outbreak was averted.

Submitted by Eric Brown, Epidemiological Specialist, Disease Investigation Branch, Disease Outbreak and Control Division.

Table 1: Summary of Notifiable Diseases, State of Hawai`i 1999 – 2003

5 YEAR SUMMARY OF REPORTED CASES OF NOTIFIABLE DISEASES per 100,000 POPULATION- HAWAI`I, 1999 - 2003

DISEASE/YEAR	1999	2000	2001	2002	2003
Total Resident Population, July 1st est., 1999-2003[1]	1,210,300	1,212,281	1,224,398	1,244,898	1,257,608
AIDS	8.51	8.91	10.86	10.76	9.54
AMEBIASIS *	1.90	2.72	2.12	2.33	2.15
ANTHRAX	0.00	0.00	0.00	0.00	0.00
BOTULISM, FOODBORNE	0.00	0.00	0.00	0.00	0.00
BOTULISM, INFANT	0.00	0.16	0.16	0.08	0.08
BOTULISM, WOUND	N/R	N/R	0.00	0.00	0.00
BRUCELLOSIS	0.17	0.08	0.25	0.08	0.16
CAMPYLOBACTERIOSIS *	73.04	68.80	61.66	71.49	51.76
CHANCROID	N/R	N/R	0.00	0.00	0.00
CHEMICAL *	0.00	0.00	0.00	0.00	0.00
CHLAMYDIA	261.67	292.09	329.71	364.37	435.75
CHOLERA	0.08	0.00	0.00	0.00	0.16
COCCIDIOIDOMYCOSIS	N/R	N/R	N/R	N/R	N/R
CONJUNCTIVITIS, INFECTIOUS *	N/R	N/R	N/R	N/R	N/R
CRYPTOSPORIDIOSIS	0.00	0.00	0.25	0.16	0.00
DENGUE FEVER	0.08	0.00	12.50	1.12	0.16
DIPHTHERIA	0.00	0.00	0.00	0.00	0.00
E. COLI 0157:H7	1.24	1.15	1.80	2.97	0.72
ENTEROCOCCUS, VANCOMYCIN RESISTANT*	8.43	7.67	7.60	7.31	2.78
FILARIASIS	0.08	0.08	0.00	0.00	0.00
FISH POISONING, CIGUATERA *	3.55	3.05	4.82	5.62	4.45
FISH POISONING, SCOMBROID *	3.39	4.37	5.39	4.02	6.44
GASTROENTERITIS, FOODBORNE *	N/A	N/A	N/A	N/A	N/A
GIARDIASIS *	9.67	8.66	9.64	7.31	7.47
GONORRHEA	38.25	36.79	49.41	60.00	100.43
HAEMOPHILUS INFLUENZA (invasive disease)	1.24	2.06	1.88	3.21	1.11
HALLUCINOGENIC FISH POISONING *	0.00	0.16	0.08	0.00	0.24
HANSEN'S DISEASE	1.82	1.24	1.96	0.88	1.19
HANTAVIRUS	0.00	0.00	0.00	0.00	0.00
HEMOLYTIC UREMIC SYNDROME	0.00	0.00	0.00	0.00	0.00
HEPATITIS A	1.98	1.57	1.39	2.01	1.03
HEPATITIS B (ACUTE)	1.32	1.07	1.80	0.96	2.15
HEPATITIS C (ACUTE)	0.00	0.16	0.00	0.08	0.32
HEPATITIS E	N/R	N/R	0.00	0.00	0.00
HEPATITIS non-A, non-B	0.00	0.00	N/R	N/R	N/R
INFLUENZA * (& Infl.-Like Illness)	81.38	41.49	80.04	56.87	72.52
KAWASAKI DISEASE	N/R	N/R	N/R	N/R	N/R
LEGIONNELOSIS	0.08	0.08	0.41	0.08	0.08
LEPTOSPIROSIS *	4.30	1.90	1.31	2.33	1.43
LISTERIOSIS	0.58	0.33	0.49	0.64	0.40
LYME DISEASE	N/R	N/R	N/R	N/R	N/R
MALARIA	0.99	0.82	1.06	0.72	0.48
MEASLES	0.17	0.49	0.65	0.32	1.75
MENINGITIS, ASEPTIC & VIRAL *	N/R	N/R	N/R	N/R	N/R
MENINGITIS, *H. INFLUENZA*	0.00	0.00	N/R	N/R	N/R
MENINGITIS, MENINGOCOCCAL	0.83	0.66	1.06	0.72	1.11
MENINGITIS, OTHER *	N/R	N/R	N/R	N/R	N/R
MUMPS	1.32	1.90	3.43	1.77	1.11
PELVIC INFLAMMATORY DISEASE (PID)	N/R	N/R	1.31	1.12	0.00
PERTUSSIS	4.21	3.38	3.43	2.41	0.95
PLAGUE	0.00	0.00	0.00	0.00	0.00
PNEUMOCOCCAL DISEASE *	5.04	13.20	9.80	10.28	11.29
POLIOMYELITIS	0.00	0.00	0.00	0.00	0.00
PSITTACOSIS	0.00	0.00	0.00	0.00	0.00
QFEVER	N/R	N/R	0.00	0.00	0.00
RABIES	0.00	0.00	0.00	0.00	0.00
RUBELLA (GERMAN MEASLES)	0.00	0.00	0.16	0.00	0.08
RUBELLA, CONGENITAL	0.00	0.00	0.08	0.00	0.00
SALMONELLOSIS	27.93	19.55	29.08	21.53	18.29
SHIGELLOSIS	2.89	3.13	4.82	5.78	3.82
SMALLPOX	N/R	N/R	0.00	0.00	0.00
STREPTOCOCCAL INFECTIONS**	2.31	3.05	7.27	8.84	11.05
SYPHILIS, PRIMARY & SECONDARY	0.25	0.16	0.98	0.88	1.11
SYPHILIS, EARLY LATENT	0.25	0.25	0.57	1.69	0.48
SYPHILIS, LATENT & LATE LATENT	0.50	0.49	1.88	1.93	3.10
TETANUS	0.00	0.00	0.00	0.08	0.00
TOXIC SHOCK SYNDROME(STREP)	0.00	0.00	0.00	0.00	0.00
TOXOPLASMOSIS *	0.17	0.16	1.80	1.37	1.75
TRICHINOSIS	0.00	0.08	0.00	0.00	0.00
TUBERCULOSIS	15.20	11.22	12.33	11.89	9.30
TULAREMIA	N/R	N/R	0.00	0.00	0.00
TYPHOID FEVER	0.00	0.49	0.25	0.40	0.16
TYPHUS, MURINE *	0.17	0.41	0.33	3.78	4.21
VARICELLA ZOSTER (CHICKENPOX) *	N/R	N/R	N/R	N/R	N/R
VIBRIOSIS *	1.16	1.48	1.23	1.69	1.83
WEST NILE VIRUS FEVER	N/R	N/R	N/R	0.00	0.00
YELLOW FEVER	0.00	0.00	0.00	0.00	0.00
YERSINIOSIS *	0.83	0.58	0.82	0.88	0.56

[1] Population Estimates Program, Population Division, U.S. Bureau of the Census, Washington, DC 20233

* A non-notifiable disease or condition for which the Centers for Disease Control & Prevention and the Hawaii Dept. of Health maintain surveillance.
** Non-pharyngitis / Group A invasive beta-hemolytic strep and Toxic Shock Syndrome due to Strep

N/R stands for "not reportable" and N/A stands for "not applicable."

Table 2: Implicated Fish Types in Ciguatera Incidents by Island and Location of Catch Site, State of Hawai`i 2003

Island/City of Incident	City / Catch Site	Fish
Hawai`i		
Honokaa	Maui / Unknown	Hage
Kamuela	Kailua-Kona / Mauna Lani	Roi
Honokaa	Kawaihae / Unknown	Papio
Waikoloa	Puako	Hage
Kaua`i		
Kapaa	North Shore / Larson Bch	Kole
Lihue	North Shore / Princeville	Ulua
Kekaha	Na Pali Coast	Roi
Lihue	North Shore	Omelu, Kole
Kapaa	Nawiliwili / Alua Point	Ulua
Koloa	Nohili Ditch/ Polihale	Uku
Kapaa	Unknown	Unknown
Eleele	Mana / Polihale	Uku
Kapaa	Kilauea	Ulua
Maui		
Paia	Unknown	Lapolapo
Kahului	Kahakuloa	Sea bass
Lahaina	Unknown	Roi
Paia	Kahakuloa	Omelu
O`ahu		
Honolulu	Kona / Unknown	Roi
Ewa Beach	Kona / Unknown	Roi
Honolulu	Maui / Unknown	Roi

Figure 1: Influenza by Strain Types, State of Hawai`i 2003

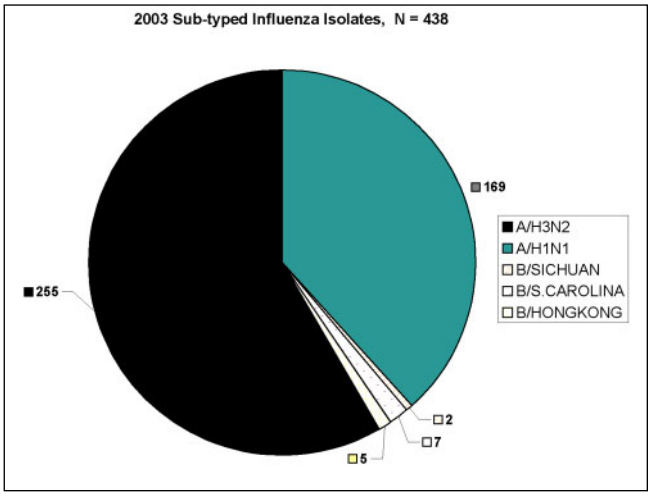


Table 3: Implicated Fish Types in Scombroid Incidents by Island and Preparation Site, State of Hawai`i 2003

Island/City	Preparation of Fish	Type of Fish	Island/City	Preparation of Fish	Type of Fish
Hawai`i			Oahu		
Kailua-Kona	Restaurant	Ahi	Honolulu	Restaurant	Ahi
Hilo	Restaurant	Mahi Mahi	Honolulu	Hotel Caterer	Mahi Mahi
Kaua`i			Honolulu	Hospital Cafeteria	Mahi Mahi
Hanamaulu	Home (fm vendor)	Akule	Honolulu	Restaurant	Mahi Mahi
Lihue	Hospital Cafeteria	Ono	Mililani	Restaurant	Ahi
Hanamaulu	Restaurant	Ahi	Honolulu	Restaurant	Mahi Mahi
Kapaa	Restaurant	Mahi Mahi	Pearl City	Restaurant	Ahi
Lihue	Restaurant	Mahi Mahi	Honolulu	Restaurant	Ahi
Poipu	Restaurant	Mahi Mahi	Aiea	Restaurant	Ahi
Poipu	Restaurant	Walu	Honolulu	Restaurant / Caterer	Mahi Mahi
Kapaa	Restaurant	Mahi Mahi	Honolulu	Restaurant	Ahi
Poipu	Employee Cafeteria	Mahi Mahi	Honolulu	Restaurant	Ahi
Kapaa	Home (from private fisherman)	Palani	Waipahu	Restaurant	Mahi Mahi
Maui			Honolulu	Restaurant	Mahi Mahi
Kula	Restaurant	Mahi Mahi	Honolulu	Restaurant	Mahi Mahi
Wailuku	Home (store bought)	Mahi Mahi	Honolulu	Restaurant	Mahi Mahi
			Wahiawa	Restaurant	Ahi
Moloka`i			Honolulu	Restaurant	Ahi
Kanakakai	Restaurant	Mahi Mahi	Honolulu	Canned tuna fm store	Tuna
			Honolulu	Restaurant	Ahi
			Honolulu	Employee Cafeteria	Mahi Mahi
			Honolulu	Restaurant	Mahi Mahi
			Honolulu	Restaurant	Mahi Mahi

Table 4: Summary of Food-borne Outbreaks, State of Hawai`i 2003

County	# ill/ #exposed	Symptoms	Incubation (hrs)	Foods implicated	Agent	Status
Kaua`i	2/2	N,V,HA	Unknown	Unknown	Unknown	Probable
O`ahu	6/10	V, D, ADC	6 - 9 hrs	Hamburger sandwich	Unknown	Probable
Maui	3/3	N,V, D	3 hrs	Kalua pork sandwiches	*Staphylococcus aureus*	Confirmed
Maui	23? / 103?	N,V, D,HA,ADC	3.5 hrs	Spaghetti sauce or noodles	*Staphylococcus aureus*	Confirmed
Maui	5? / 200?	D, ADC	24 hrs	Unknown	*Salmonella newport*	Confirmed
O`ahu	90? / 150?	N,V,D,F,HA, ADC	32 hrs	Sushi	Viral	Probable
Maui	4 / ?	N,V, D, ADC, HA, F	Unknown	Unknown	*Norovirus*	Confirmed

D = diarrhea, V = vomiting, ADC = abdominal cramps, HA = headache, N = nausea, F = fever

Table 5: Vaccine Preventable Disease Investigations by Island and Final Diagnosis, State of Hawai`i 2003

	Hawai`i	Kaua`i	Maui	O`ahu	Total
Diphtheria	0	0	0	0	0
Measles	0	0	0	19 - confirmed, 3 - probable	22
Mumps	2	0	3	9	14
Pertussis	0	2 - probable	1 - probable	2 - confirmed, 6 - probable	11
Rubella	0	0	0	1- confirmed	1
Congenital Rubella	0	0	0	0	0
Tetanus	0	0	0	0	0
Total	2	14	4	40	48

Table 6: Hepatitis C Infections Reported by Age, State of Hawai`i 1998 – 2003

Ages	1998	1999	2000	2001	2002	2003	Total
0-5	1	7	10	3	3	5	29
5-10	1	3	3	1	2	1	11
10-15	0	0	5	2	2	1	10
15-20	1	7	4	10	4	7	33
20-25	4	14	25	16	22	26	107
25-30	6	40	40	41	31	28	186
30-35	15	98	120	92	74	64	463
35-40	49	205	213	202	142	140	951
40-45	73	356	430	343	295	301	1,798
45-50	83	419	493	419	382	485	2,281
50-55	36	239	329	304	328	427	1,663
55-60	19	81	129	112	105	208	654
60-65	13	41	55	67	58	78	312
65-70	11	42	48	55	47	47	250
>70	14	56	75	68	88	92	393
Age Unknown	433	226	78	51	29	34	1,549
Total	759	1,834	2,057	1,786	1,612	1,944	10,690

The Strategic National Stockpile (SNS)

Helping Hawai`i Prepare for a Large Scale Public Health Emergency

An act of terrorism, a large scale natural disaster, or a serious technological accident in Hawai`i will require rapid access to large quantities of pharmaceuticals and medical supplies. Such quantities may not be readily available unless special stockpiles are created. With limited resources, many states including Hawai`i have found it difficult to create sufficient stockpiles on their own. Therefore, the Federal Government created a national stockpile of pharmaceuticals and medical supplies as a resource for all.

In 1999 Congress charged the United States (U.S.) Department of Health and Human Services (HHS) and the Centers for Disease Control and Prevention (CDC) with the establishment of the National Pharmaceutical Stockpile (NPS). The mission was to provide a re-supply of large quantities of essential medical materiel to states and communities during an emergency within twelve hours of the federal decision to deploy.

The Homeland Security Act of 2002 tasked the Department of Homeland Security (DHS) with defining the goals and performance requirements of the program as well as managing the actual deployment of assets. Effective on March 1, 2003, the NPS became the Strategic National Stockpile (SNS) and is currently co-managed by the DHS and HHS. The SNS Program, under the guidance of the CDC, works with governmental and non-governmental partners to upgrade the nation's public health capacity to respond to a national emergency. Critical to the success of this initiative is ensuring that upon a federal decision to deploy, the requesting state or community is able to receive, store, and distribute the SNS assets.

The Hawai`i Department of Health (DOH) was tasked with and has completed the development of the Hawai`i Strategic National Stockpile Plan. This plan, a "living" document, ensures that upon the request and federal decision to deploy, the State of Hawaii is able to receive, store, distribute, and most important, effectively manage the SNS assets.

A National Repository of Life-Saving Pharmaceuticals and Medical Materiel

The SNS is a national repository of antibiotics, antivirals, vaccines, chemical antidotes, antitoxins, life-support medications, IV administration, airway maintenance supplies, and medical/surgical items. The SNS is designed to supplement and re-supply state and local public health agencies in the event of a national emergency anywhere and at anytime within the U.S. or its territories.

The SNS is organized for flexible response. The first line of support lies within the immediate response 12-hour Push Packages, a cache of pharmaceuticals, chemical antidotes, and medical supplies that are positioned in strategically located, secure warehouses across the country. Weighing in excess of 50 tons and packed into 130 specialized airline cargo containers a Push Package has been configured to be immediately loaded onto either trucks or commercial cargo aircraft for the most rapid transportation. Designed to provide rapid delivery of a broad spectrum of assets for an ill defined threat in the early hours of an event, Push Packages can be delivered anywhere in the U.S. or its territories within 12 hours of a federal decision to deploy.

If the incident requires additional pharmaceuticals and/or medical supplies, follow-on vendor managed inventory (VMI) supplies will be shipped to arrive within 24 to 36 hours. If the causative agent is well defined, VMI can be tailored to provide pharmaceuticals, supplies and/or products specific to the suspected or confirmed agent(s). In this situation, VMI could act as the first option for immediate response from the SNS.

Determining and Maintaining SNS Assets

To determine and review the composition of the SNS Program assets, DHS, HHS and CDC jointly consider many factors, such as current biological and/or chemical threats, the availability of medical materiel, and the ease of dissemination of pharmaceuticals. One of the most significant factors in determining SNS composition, however, is the medical vulnerability of the U.S. civilian population.

The SNS Program ensures that the medical materiel stock is rotated and kept within potency shelf-life limits. This involves quarterly quality assurance/quality control checks on all Push Packages, annual 100% inventory of all Push Package items, and inspections of environmental conditions, security, and overall package maintenance.

continued on page 10

Strategic National Stockpile

continued from page 9

Supplementing State and Local Resources

During a public health emergency threatening our community, state and local stocks of medical materiel will be depleted quickly. As a safeguard measure the state of Hawai`i can bolster its response to a public health emergency by requesting the 12-hour Push Package, VMI, or a combination of both through the SNS Program, depending on the situation.

When and How will the SNS be Deployed to Hawai`i?

The decision to deploy SNS assets may be based on evidence showing the overt release of an agent that might adversely affect public health. It is more likely, however, that subtle indicators, such as unusual morbidity and/or mortality identified through the nation's or DOH's disease outbreak surveillance and epidemiology network, will alert DOH officials to the possibility (and confirmation) of a biological or chemical incident, or a national or local emergency.

To receive SNS assets, the Director of Health (in consultation with the State Epidemiologist) will determine the appropriate disease control measures and subsequently will coordinate with The Adjutant General (TAG), the Vice-Director of Civil Defense, and the County mayors to report these findings and recommendations to the Governor. The Governor will then request the deployment of the SNS assets from the CDC or DHS. DHS, HHS, CDC, and other federal officials will evaluate the situation and determine a prompt course of action. It is important to note that a Presidential Declaration is not required prior to requesting or receiving the SNS assets.

Rapid Coordination, Transport, & Transfer of SNS Assets

In the event the 12-hour Push Package is deployed to Hawai`i, the DOH will activate its Department Operations Center (DOH DOC). The DOH DOC will manage the SNS assets and as an operations center, will be in support of the State Civil Defense Emergency Operations Center (State EOC).

Upon the arrival of the 12-hour Push Package at the designated receiving and storage site, the SNS Program will transfer authority for the SNS materiel to the state. Concurrent with the transport of the 12-hour Push Package, the SNS Program will deploy its Technical Advisory Response Unit (TARU).

A coordinated and tested team of state and local authorities, led by a DOH On-site Coordinator will initiate the breakdown of the 12-hour Push Package for distribution. The TARU will remain on site to provide assistance in receiving and distributing the SNS assets while a TARU liaison will be positioned at the DOH DOC to advise and ensure that the SNS assets are put to prompt and effective use.

Planning, Training and Exercise

The SNS Program is part of a nationwide preparedness training and education program for state and local health care providers, first responders, and governments (to include federal officials, governors' offices, state and local health departments, and emergency management agencies). This training not only explains the SNS Program's mission and operations, it alerts state and local emergency response officials to the important issues they must plan for in order to receive, secure, and distribute SNS assets. Participation in these training and education programs, by planners from the DOH, has led to the development of the Hawai`i Strategic National Stockpile Plan.

This plan, while detailed and specific, was developed to assist all state, county and private sector agencies to coordinate and integrate resources to ensure that SNS assets can be managed efficiently and effectively. Receiving, storing, distributing and providing SNS materiel and supplies to the right place at the right time and in adequate quantities will ensure that our island community is adequately cared for during a public health emergency.

Tabletop exercises, drill exercises and most recently in August 2004 a statewide SNS full-scale exercise were conducted to test various functional components of the plan. Receiving, staging, storing, delivery and management of SNS assets have been exercised and reviewed along with the most challenging component of the plan, the providing of medication to the public at a mass medication clinic. Through these exercises vital lessons have been learned and incorporated into revising and strengthening the overall plan, while networking among

continued on page 11

Strategic National Stockpile

continued from page 10

stakeholders has underscored the need of a cooperative effort. More exercises are being scheduled in the near future to continually test our readiness to respond and our preparedness to act.

The DOH's goal is to ensure that if a public health emergency occurs in Hawai`i that requires the use of SNS assets, the Hawai`i Strategic National Stockpile Plan will be executed with ease, precision and cooperation among all stakeholders to mitigate and resolve the public health emergency.

Adapted from a CDC article.

Submitted by Todd K. Inafuku, R.Ph., Pharmacist, Bioterrorism Preparedness & Response Branch, Disease Outbreak and Control Division.

Hawai`i's Perinatal Hepatitis B Prevention Guidelines

Without proper post-exposure prophylaxis, 70% to 90% of infants born to hepatitis B virus (HBV)surface antigen (HBsAg) positive women will contract hepatitis B when the mothers are both surface antigen (HBsAg) and e antigen (HbeAG) positive. Of these infected infants, up to 90% will become chronic hepatitis B carriers, 15%-25% of whom will eventually die of hepatitis B related chronic liver disease and hepatocellular carcinoma. However, with the proper surveillance and preventative procedures, 90%-95% of these potential infections can be eliminated.

In order to reduce Pperinatal transmission of hepatitis B disease can be reduced by following , the Centers for Disease Control and Prevention (CDC) and the State of Hawaii Department of Health's (DOH) protocols and recommendations are outlined below.

Maternal Hepatitis B Screening

The Hawai`i Administrative Rules, Chapter 11-156-8.1 require that all pregnant women be routinely tested for HBsAg. Testing must be performed by a U.S. licensed laboratory. Any woman initially tested outside the U.S. should be retested prior to giving birth. Ideally, testing should take place during an early prenatal visit. However, if a woman has not been screened prenatally, or her HBsAg status is unavailable at the time of delivery, testing should be performed on admission for delivery. Testing should be for surface antigen and not surface antibody. The attending physician should report all positive hepatitis B surface antigen tests to the Department of Health's (DOH) Perinatal Hepatitis B Program. The DOH department will then screen household members and sexual partners of the hepatitis B virus (HBV) carrier and provide hepatitis B vaccination to susceptible contacts, if indicated, through DOH clinics.

Chart Documentation

A hard copy of the mother's HBsAg test should be kept in her hospital medical record. In order to reduce misreporting of the mother's HBsAg status, which has been discovered during DOH assessments, a copy of the mother's HBsAg status should also be kept in the infant's chart (a preprinted line or box is also recommended).

Reporting

Pediatricians and hospitals shall report all infants born to an HBsAg positive mother and all infants born to a mother with unknown HBsAg status to the DOH Immunization Branch at (808) 586-8309 in Honolulu. Copies of the obstetric nursing form and the vaccine administration visit record form should be faxed within 24 hours to (808) 586-8301.

Post- exposure Prophylaxis

The CDC recommends that all infants born to HBsAg positive mothers should receive one dose (0.5 ml) of hepatitis B immune globulin (HBIG) intramuscularly, within 12 hours of birth. The infant's first dose of hepatitis B vaccine should be administered simultaneously with the HBIG, but at a different site. The second and third doses of the vaccine series should be administered at one to two months and six months of age respectively. Testing all infants born to HBsAg positive mothers for hepatitis B surface antigen and surface antibody is recommended at nine to 15 months of age, to monitor the success of therapy. Infants who are anti-HBs positive and HbsAg negative are protected and do not need further vaccine doses. Infants found to be anti-HBs negative should be reimmunized.

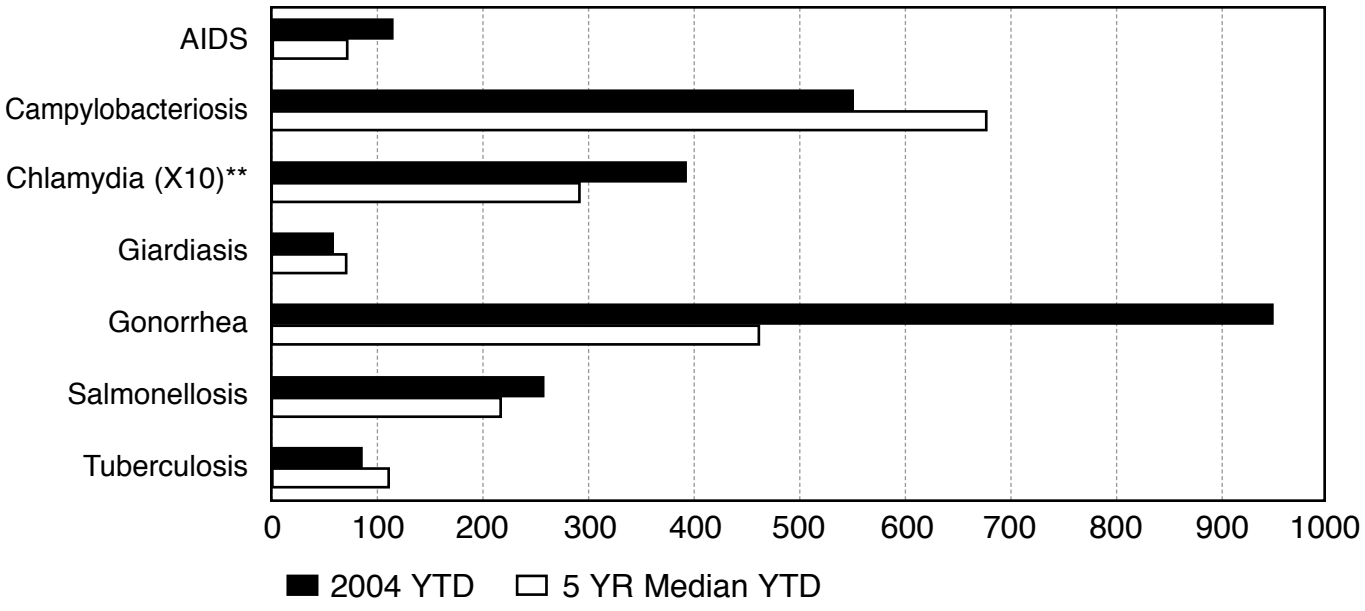
Infants born to women whose HBsAg status is unknown at the time of delivery should receive the first dose of hepatitis B vaccine within 12 hours of birth, even if blood test results are still pending. If the mother is found to be HBsAg positive, the infant should receive HBIG as soon as possible, but no later than seven days of age. If the infant of an HBsAg positive mother did not receive HBIG within seven days after birth, it is important that the second dose of vaccine be administered on time at one to two months of age.

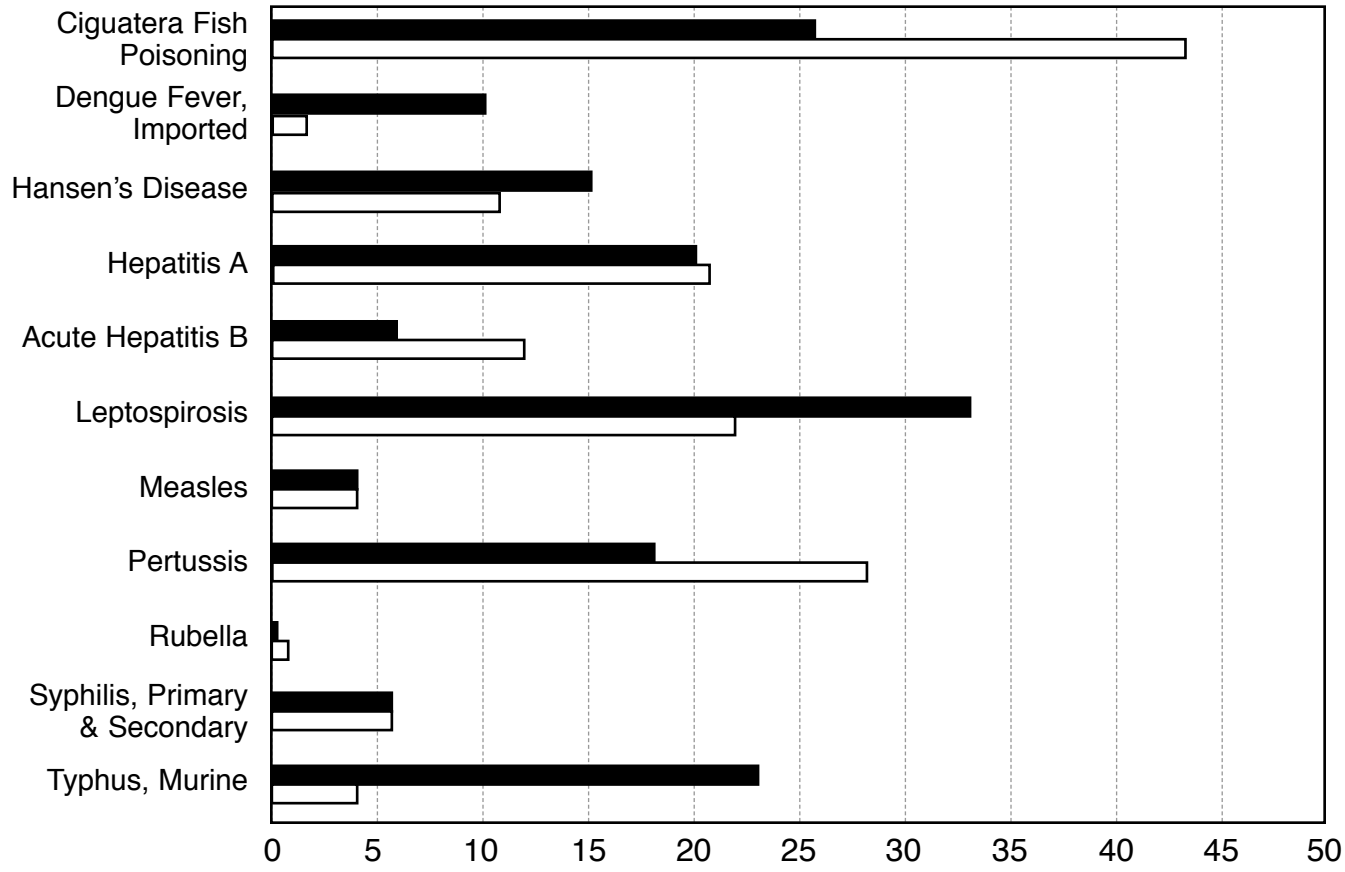
Pre-exposure Prophylaxis

The Advisory Committee on Immunization Practices recommends that infants born to HBsAg negative women should receive their initial dose of hepatitis B vaccine in the first few days of life, prior to hospital discharge. The second dose may be administered at one to four months of age, and at least four weeks after the first dose. The third dose may be administered at six to 18 months of age. The third dose should be at least eight weeks after the second dose AND at least four months after the first dose, and should not be administered before six months of age.

Communicable Disease Surveillance

Selected Diseases by Date of Report*
Hawai'i, 2004 Year-to-date Through September





* These data do not agree with tables using date of onset or date of diagnosis.
** The number of cases graphed represent 10% of the total number reported.